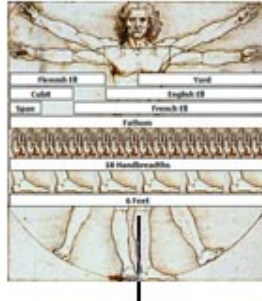


1. [Introductions](#)
2. [Lectures notes and readings](#)

Introductions

A course in

Engineering Biomechanics



Hanoi University of Technology

Đại Học Bách Khoa Hà Nội



Offered with support from the
Vietnam Education Foundation (USA)

BAYLOR
UNIVERSITY



Benjamin S. Kelley, Ph.D., P.E.
Professor and Dean
School of Engineering and Computer Science
Baylor University, Waco, Texas (USA)
VEF U.S. Faculty Scholar
Spring 2009



Acknowledgements

Resource Preparation Assistance

Mr. B. Rhett Rigby

Mechanical Engineering Graduate Student

Baylor University

Production, Printing and Assembling Assistance

Ms. Leigh Ann Marshall

Director of Advancement

Ms. Cheryl A. Tucker

Assistant to the Dean

School of Engineering and Computer Science

Baylor University

Course Notes and Lectures

Dr. Brian A. Garner

Associate Professor of Mechanical Engineering

Baylor University

Program Coordination

MSc. Vu Duy Hai

Lecturer, Researcher, PhD. Candidate

Department of Electronics Technology and Biomedical Engineering

Faculty of Electronics and Telecommunications

Hanoi University of Technology

Program Support

Vietnam Education Foundation (USA)

Dr. Van-Toi Vo, Executive Director

Dr. Lynne McNamara, Deputy Executive Director

Ms. Lana Walbert, Director of Finance, Accounting & Administration

Dr. Phuong Nguyen, Country Director

Ms. Binh Dang, Program Manager

Lectures notes and readings

Chapter #	Title	Power Point Slices to download	Readings to download
1	Course Expectations	1-Slides-CourseIntro.pdf	1-ReadingSyllabus&DesignPro
2	Introduction: History	2-Slides - History.pdf	2-Reading - Cambridge.pdf
3	Introduction to Design: The Process	3-Slides-DesignProcess.pdf	3-Reading-EngrDesignProce

4	Kinetics: Forces (Linear velocities, accelerations)	4-Slides - Kinetics.pdf	4-Reading - Sellers.pdf
5	Introduction to Design: The Report	5-Slides- Design Report.pdf	5-Reading-DesignReportGui
6	Kinematics	6-Slides - Kinematics.pdf	6-Reading - Robertsonch5pt1 Robertsonch5pt2.pdf
7	Introduction to Design: The Presentation	7-Slides- TechnicalPresentations.pdf	7-Reading-TechnicalPresenta

8	Statics:Basics	8-Slides - Statics.pdf	8-Reading - Robertsonch3pt1 Robertsonch3pt2.pdf; 8-Reac Robertsonch4.pdf
9	Human Anatomy:Musculoskeletal System	[missing_resource: 9-Slides – Anatomy.pdf]	9-Reading - Anatomy.pdf
10	Statics:Bioapplications	10-Slides - Statics.pdf	10-Reading - Goyal-4.pdf

11	Human Anatomy: Simple & Articulating Joints	11-Slides - Anatomy.pdf	11-Reading - Harmony.pdf
12	Mechanics of Materials: Stress and Strain	12-Slides - Mechanics of Materials.pdf	12-Reading - Rezaei.pdf
13	Getting Acquainted with Elluminate		[missing_resource: 13-Readi [missing_resource: 13-Readi
14	Mechanics of Materials: Material Properties	14-Slides - Mechanics of Materials.pdf	14-Reading - Rezaeich2pt1.p Rezaeich2pt2.pdf

15	Introduction to Stress/Bending	15-Slides - Stress and Bending.pdf	
16	Advanced Stress/Bending: Neutral Axis, Parallel Axis Theorem	16-Slides - Advanced Stress.pdf	16-Reading - Rapoff.pdf

17	Structure of Bone	17-Slides - Bone.pdf	17-Reading - Yun.pdf
18	Mechanical Properties of Bone	18-Slides - Bone.pdf	18-Reading - Christopher.pdf

19	Fracture Mechanics and Breaks	19-Slides - Breaks.pdf	19-Reading - Alms.pdf
20	Fracture Mechanics and Healing	20-Slides - Healing.pdf	20-Reading - Kalfas.pdf ; 20-Calgary.pdf
21	Tendons/Ligaments:Structure and Properties	21-Slides - tendon ligament.pdf	21-Reading - Hollister.pdf

22	Tendons/Ligaments:Mechanical and Viscoelastic Properties	<u>22-Slides - tendon_ligament.pdf</u>	<u>22-Reading - Rapoff.pdf</u>
23	Articular Cartilage:Structure and Function	<u>23-Slides - Articular Cartilage.pdf</u>	<u>23-Reading - Mansour.pdf</u>

24	Articular Cartilage:Mechanical Properties	<u>24-Slides - Articular Cartilage.pdf</u>	<u>24-Reading - Rapoff.pdf</u>
25	Introduction to Joints:Structure and Function	<u>25-Slides - Joints.pdf</u>	<u>25-Reading - Rapoff.pdf</u>
26	Introduction to Joints:Types and Movement	<u>26-Slides - Joints-1.pdf</u>	

27	Implants:Devices and Materials	27-Slides - Implants.pdf	27-Reading - Goyal.pdf
28	Implants:Bone Plate Analysis and Design	28-Slides - Bone Plate.pdf	28-ReadingBonePlateBiomechanicsKelley.pdf
29	Knee Biomechanics:Structure and Function	29-Slides - Knee Biomechanics.pdf	29-Reading - Blue Medical.p

30	Knee Biomechanics: Movement and Forces	30-Slides - Knee Biomechanics.pdf	
33	Hip: Structural Components	33-Slides - Hip Biomechanics.pdf	33-Reading - About Joints.pdf
34	Hip: Biomechanical Properties	34-Slides - Hip Biomechanics.pdf	34-Reading - About Joints.pdf

35	Spine:Structural Components	<u>35-Slides - Spine Biomechanics.pdf</u>	<u>35-Reading - Benzel.pdf</u>
36	Spine:Biomechanical Properties	<u>36-Slides - Spine Biomechanics.pdf</u>	<u>36-Reading - Rapoff.pdf</u>

38	Introduction to Muscle:Anatomy	38-Slides - Muscle.pdf	38-Reading - Rapoff.pdf
39	Introduction to Muscle:Micro-and Macro-Structure	39-Slides - Muscle.pdf	
40	Introduction to Muscle:Mechanics	40-Slides - Muscle.pdf	